

شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلو

# بسم الله الرحمن الرحيم





MONA MAGHRABY



شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلو



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



MONA MAGHRABY



شبكة المعلومات الجامعية التوثيق الإلكترونى والميكروفيلم

# جامعة عين شمس التوثيق الإلكتروني والميكروفيلم قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



MONA MAGHRABY



#### Rheumatological and Immunological Manifestations among a Cohort of Human Immunodeficiency Virus Egyptian Patients

#### Thesis

Submitted for Partial Fulfillment of Master Degree in Internal Medicine

Submitted by

#### **Ayman Mohamed Hamed**

M.B.B.CH Faculty of Medicine Assuit University

Supervised by

#### Prof. Dr. Dalia Fayez Mohamed

Professor of Internal Medicine and Rheumatology Faculty of Medicine Ain Shams University

#### Prof. Dr. Sherin Mohamed Hosny

Professor of Internal Medicine and Rheumatology Faculty of Medicine Ain Shams University

#### Dr. Safaa Abdelsalam Aly Hussein

Lecturer of Internal Medicine and Rheumatology Faculty of Medicine Ain Shams University

> Faculty of Medicine Ain Shams University 2021



سورة البقرة الآية: ٣٢

#### Acknowledgment

First and foremost, I feel always indebted to AUAH, the Most Kind and Most Merciful.

I'd like to express my respectful thanks and profound gratitude to **Prof. Dr. Dalia Fayez Mohamed**, Professor of Internal Medicine, Faculty of Medicine Ain Shams University for her keen guidance, kind supervision, valuable advice and continuous encouragement, which made possible the completion of this work.

I am also delighted to express my deepest gratitude and thanks to **Prof. Dr. Sherin Mohamed Hosny**, Professor of Internal Medicine, Faculty of Medicine Ain Shams University, for her kind care, continuous supervision, valuable instructions, constant help and great assistance throughout this work.

I am deeply thankful to **Dr. Safaa Abdelsalam Aly Hussein,** Lecturer of Internal Medicine, Faculty of Medicine
Ain Shams University, for her great help, active participation
and guidance.

**Ayman Mohamed** 

## **List of Contents**

Title	Page No.
List of Tables	i
List of Figures	iv
List of Abbreviations	viii
Introduction	1
Aim of the Work	3
Review of Literature	
Human Immunodeficiency	4
Rheumatological Manifestations of HIV	40
Patients and Methods	77
Results	83
Discussion	137
Summary	153
Conclusion	158
Recommendations	159
References	160
Arabic Summary	<del> </del>

## List of Tables

Table No.	Title	Page No.
Table (1):	HIV and AIDS estimates in Egypt	6
Table (2):	HIV proteins and its function	
Table (3):	Probability of transmission per episod	
Table (4):	Symptoms of acute HIV inferrace according to prevalence	ctions
Table (5):	HIV infection stage, based on age-sp CD4+ T-lymphocyte count or CD4 lymphocyte percentage of lymphocytes	+ T- total
Table (6):	Risk factors for HIV associated IRIS	
Table (7):	Demographic data among our 100 positive patients	
Table (8):	Risk factors for acquiring HIV infeamong our 100 patients	
Table (9):	Descriptive data of HIV treatment and duration among our 100 HIV patients	
Table (10):	Co-morbidities among our 100 positive patients	
Table (11):	Clinical manifestations among our HIV positive patients	
Table (12):	Rheumatological manifestations a our 100 HIV positive patients	_
Table (13):	Frequency of Joint affection among HIV patients (arthritis)	
Table (14):	Laboratory data among our 100 patients.	
Table (15):	Immunological tests, antibody test HCV & HIV, and HIV quantitative among our 100 HIV patients	s for PCR

## List of Tables Cont...

Table No.	Title Pag	e No.
Table (16):	X-ray findings among our 100 HIV patients.	
Table (17):	Mortality rates among our studied 100 HIV patients with rheumatological manifestations:	
Table (18):	Comparison between HIV patients receiving different HAART drug regimens as regards some clinical manifestations	
Table (19):	Comparison between HIV patients receiving different HAART drug regimens as regard rheumatological manifestations	
Table (20):	Comparison between HIV patients receiving different HAART drugs regimens and nonspecific therapy as regards rheumatologic manifestations	
Table (21):	Comparison between patients on HAART drugs and others on non-specific drugs as regards some clinical manifestations	
Table (22):	Comparison between group of HIV patients on HAART drugs and others on non-specific HIV drugs as regards laboratory investigations.	
Table (23):	Comparison between group of patients on HAART drugs and group on non-specific HIV treatment as regards some serological data	
Table (24):	Comparison between patients on HAART drugs and others on non-specific HIV drugs as regards x-ray findings:	

## List of Tables Cont...

Table No.	Title	Page	No.
Table (25):	Correlation between CD4 count demographic data and laboratory among our studied HIV patients	test	114
Table (26):	Correlation between HIV PCR laboratory data of HIV patients rheumatological manifestations	and	118
Table (27):	Correlation between HIV PCR count some laboratory data among studied patients.	HIV	120
Table (28):	Comparison between the presence absence of some rheumatolo manifestations as regards CD4 camong our HIV patients	gical count	130
Table (29):	Comparison between HIV-PCR negation positive as regards the presence of sclinical and rheumatolomanifestations:	some gical	131
Table (30):	Comparison between CD4 count an HIV patients with the presence absence of x-ray findings:	and	134
Table (31):	Comparison between HIV patients the presence or absence of Rheums factor (RF) as regard the HIV-PCR of and CD4 count:	atoid count	134
Table (32):	Comparison between the x-ray find and mean HIV-PCR count		135

# List of Figures

Fig. No.	Title	Page No.
Figure (1):	Structure of HIV virion particles	7
Figure (2):	The organization of the viral genom	
Figure (3):	Life cycle of HIV	
Figure (4):	HIV and autoimmune disorders	
•		
Figure (5):	Pain drawing example of bilatera symmetric pain distribution	
Figure (6):	Percentage of males and femal	
rigure (6).	patients in our study.	
Figure (7):	Percentage of urban to rural resid	
riguic (1)	our study population	
Figure (8):	Marital status among our	
1180110 (0)	population.	
Figure (9):	Risk factors for acquiring HIV is	
3	among our 100 patients	
Figure (10):	Co-morbidities among our studied	
_	patients	
Figure (11):	Rheumatological manifestations an	nong our
	100 HIV positive patients	92
Figure (12):	Frequency of Joint affection ame	
	HIV patients	94
Figure (13):	Percentage of axial joint affection	_
	our study population	
Figure (14):	X-ray findings among our studied	
	patients	
Figure (15):	Mortality rates among our	
T: (10):	population.	
Figure (16):	Comparison between HIV	
	receiving different HAART drug r as regards some clinical manifestati	_
	as regards some chimical mannestati	10118 100

# List of Figures cont...

Fig. No.	Title	Page No.
Figure (17):	Comparison between HAART regimens and nonspecific the regards oral ulcers	erapy as
Figure (18):	Comparison between HAART regimens and nonspecific the regards the frequency of thromb manifestations among our 100 HP patients.	erapy as boembolic V positive
Figure (19):	Comparison between patients or and others on non-specific HIV regards Hb% levels and serum levels	drugs as uric acid
Figure (20):	Comparison between patients or and others on non-specific HIV regards mean absolute lymphocyti	drugs as
Figure (21):	Comparison between patients or and others on non-specific HIV regards mean platelets count	n HAART drugs as
Figure (22):	Comparison between patients or and others on non-specific HIV regards mean ESR level	n HAART drugs as
Figure (23):	Comparison between HAART a specific HIV drugs as regards m level	ean CRP
Figure (24):	Comparison between group of pa HAART drugs and group on no HIV treatment as regards CD4 cou	on-specific
Figure (25):	Comparison between HIV positive on HAART and HIV positive part non-specific treatment as regards X-ray findings	e patients tients on abnormal
Figure (26):	Correlation between CD4 and WB	Cs count 115

# List of Figures cont...

Fig. No.	Title	Page No.
Figure (27): Figure (28):	Correlation between CD4 and ESR Correlation between CD4 and count	platelets
Figure (29):	Correlation between CD4 and CRP	levels 116
Figure (30):	Correlation between CD4 and sea acid levels	
Figure (31):	Correlation between HIV PCR co HIV associated skin malignancy sarcoma)	(Kaposi
Figure (32):	Correlation between HIV PCR copresence of lymphadenopathy	
Figure (33):	Correlation between HIV PCR of the gender of affected HIV patient.	
Figure (34):	Correlation between the pres myositis and HIV PCR count	
Figure (35):	Correlation between the pres hepatomegaly and HIV PCR count.	
Figure (36):	Correlation between HIV PCR coabsolute lymphocyte count	
Figure (37):	Correlation between HIV PCR control thromboembolic manifestations	
Figure (38):	Correlation between HIV PCR co	ount and
Figure (39):	Correlation between the presence ulcers and HIV PCR level	e of oral
Figure (40):	Correlation between HIV PCR co	
Figure (41):	Correlation between HIV PCR coserum creatinine level	ount and
Figure (42):	Correlation between blood urea l HIV PCR count	evel and

# List of Figures cont...

Fig. No.	Title	Page No.
Figure (43):	Correlation between platelets co	
Figure (44):	Correlation between serum HIV I and ESR	
Figure (45):	Correlation between serum uric and HIV PCR count	
Figure (46):	Correlation between SGOT level a HIV PCR count	nd serum
Figure (47):	Correlation between SGPT level a HIV PCR count	
Figure (48):	Correlation between CD4 count at HIV PCR count	
Figure (49):	Comparison between HIV PCR the presence of thrombound manifestations	level and boembolic
Figure (50):	Comparison between HIV PCR the presence of myositis	
Figure (51):	Comparison between HIV PCR the presence of oral ulcers	
Figure (52):	Comparison between the x-ray fine mean HIV-PCR count	U

### List of Abbreviations

Abb.	Full term
3TC	Lamivudine
	. Associated non communicable comorbidities
ABC	
	. Anti-cardiolipin antibodies
	. Acquired immunodeficiency syndrome
	. Alanine aminotransferase
ANAs	. Anti-nuclear antibodies
	. Anticyclic citrullinated peptide antibodies
	. Anti-Phospholipid syndrome
	. American College of Rheumatology
	. Antiretroviral Therapy
AS	. Ankylosing spondylitis
ASAS	Assessment of SpondyloArthritis
	International Society
AST	. Aspartate aminotransferase
AZT	. Azidothymidine
CBC	. Complete blood count
CCR4	. Chemokine receptor type 4
CCR5	. Chemokine receptor type 5
CDC	. Centers for disease control
C-IRIS	. Cryptococcal-associated IRIS
CNS	. Central Nervous System
CRIs	. Co-receptor inhibitors
CRP	. C-reactive protein
CRP	. C-reactive protein
CSA	. Cyclosporine
	. Diffuse Infiltrative Lymphocytosis Syndrome
DMARDs	. Disease modifying antirheumatic drugs
ELISA	. Enzyme linked immune sorbent assay